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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,284

01/24/2006

Colin David Tarrant

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SQUIRE, SANDERS & DEMPSEY L.L.P.  
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EXAMINER

KOPEC, MARK T

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,284	<b>Applicant(s)</b> TARRANT ET AL.	
	<b>Examiner</b> Mark Kopec	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-18, 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/12/05</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

This application is a 371 of PCT/GB04/02417 (filed 06/07/04). The preliminary amendment filed 12/12/05 is entered. Claims 1-22 are pending.

The IDS filed 12/12/05 has been considered. An initialed copy accompanies this action.

Applicant's election with traverse of Group I (claims 1-21) and Species 1 (solid materials) in the reply filed on 08/29/08 is acknowledged. The traversal is on the ground(s) that claim 22 is dependant on claim 1 and therefore contains all of the limitations of Group I. This is not found persuasive because, as stated in the restriction requirement, the invention of group II (composition) is a product-by-process claim and does not necessarily require the particulars of indep claim 1.

The requirement is still deemed proper and is therefore made FINAL.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-9 and 12-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Dependent claims 5-9 and 12-18 each recite formula or subscripts that do not have antecedent basis in the preceding independent/dependent claims. The examiner believes these dependent claims should correctly depend from instant claims 2 or 3.

Claim 17 recites the broad recitation "the seed key or crystal", and the claim also recites "is preferably a crystal of compatible crystallographic and chemical structure" which is the narrower statement of the range/limitation. Applicant is suggested to delete the term -preferably--.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 and 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Paulose et al (*Preparation and Properties...*).

Paulose discloses:

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A new ceramic insulator-superconductor ( $\text{Ba}_2\text{YZrO}_6$ --- $\text{YBa}_2\text{Cu}_3\text{O}_7$ ) composite has been prepared. The superconducting and normal state percolation threshold values of the composite are both found to be around 35 vol% of  $\text{YBa}_2\text{Cu}_3\text{O}_7$  in the system. The critical exponent "t" describing the transport properties of the system above the percolation threshold volume is found to be 1.65 which agrees with the theoretically expected value for a perfect composite system. The value of exponent "u" which explains the transport properties of the system below the threshold volume deviates considerably. The deviation has been explained due to the reaction between  $\text{YBa}_2\text{Cu}_3\text{O}_7$  and  $\text{Ba}_2\text{YZrO}_6$  at elevated temperatures ( $> 1000^\circ\text{C}$ ) required for the processing of the composites with higher volume percentages ( $> 65$  vol%) of  $\text{Ba}_2\text{YZrO}_6$ . The implications of the results are discussed.

The reference specifies reaction between Y123 and BYZO above  $950^\circ\text{C}$  (experimental; page 149 right hand col), and teaches the addition of noble metal (page 149). The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

In the event that any minor modifications are necessary to meet the claimed limitations, such as minor variation in ratio of X-Ba-L-O : X-Ba-Cu-O, such modifications are well within the purview of the skilled artisan.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by Weinstein et al "A class of chemical pinning centers...".

As stated in the 210 search report/written opinion, Weinstein discloses the addition of  $(\text{U}_{0.6}\text{Pt}_{0.4})\text{-YBa}_2\text{O}_6$  to Nd 123 (page 440, left hand col). The reference specifically or inherently meets each of the claimed limitations.

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The reference is anticipatory.

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the rejection above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner can normally be reached on Monday - Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Kopec/  
Primary Examiner, Art Unit  
1796

MK  
December 8, 2008